National Aeronautics and Space Administration
Goddard Space Flight Center

Inside Wallops

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NASA'S TERRA Satellite Captures A World of Sunlight and Heat

The beginning of summer is an annual reminder that our world is driven by sunlight. New Terra satellite measurements show just how much the Sun influences the Earth's climate system.

The first observations, from March 2000 to May 2001, of the Clouds and the Earth's Radiant Energy System (CERES) instruments aboard Terra are the most accurate global radiation or energy measurements ever. The new data, available at NASA Langley Research Center's Atmospheric Sciences Data Center, captures incoming and outgoing energy over the whole planet and provide new insights into climate change.

"The new data will play a critical role in narrowing the uncertainties in predictions of future climate change, especially for the undefined role of the Earth's cloudiness," said Bruce Wielicki, a CERES principal investigator at Langley.

For scientists to understand climate, they must also determine what drives the changes within the Earth's radiation balance. CERES measured some of these changes over the last year, producing new images that represent data collected twice per day over the whole planet. CERES captured the May 2001 heat wave that swept across the southwestern United States. Temperatures soared to as high as 109 F in parts of California, setting new records.

The recent U.S. heat wave is only one example of outgoing energy from the Earth. Everything, from an individual person to the Earth as a whole, emits energy. As Earth absorbs solar energy, it warms up. To keep our planet at an overall hospitable temperature, the Earth must emit some of this warmth, or energy, into space.

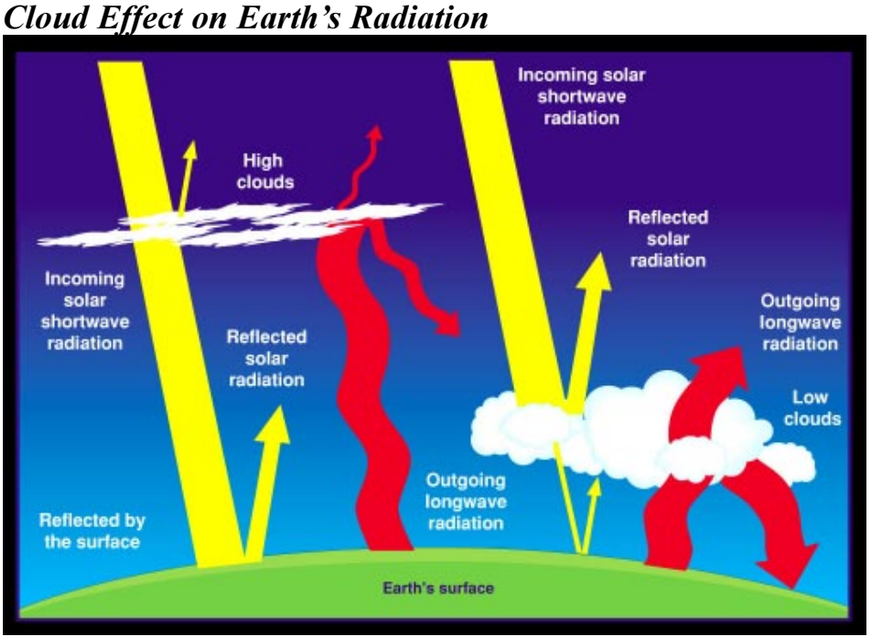
Earth's outgoing energy has two components: thermal radiation emitted by the Earth's surface and atmosphere and solar radiation reflected back to deep space by the oceans, lands, aerosols and clouds. It is the balance between the incoming energy from the Sun and outgoing energy back to space that determines Earth's temperature and climate. This balance is controlled by natural and human-induced changes, giving scientists a wide range of questions to study.

The international CERES team is now completing an integration of satellite data over the entire planet from space-borne instruments on seven different spacecraft to test the accuracy of global climate models, a task never before attempted. This will allow a new picture of the energy balance from the top of the atmosphere, all the way down to the surface of the Earth.

The Terra spacecraft is part of NASA's Earth Science Enterprise, a long-term research effort being conducted to determine how human-induced and natural changes affect our global environment.

Additional information is available on the Internet at:
http://asd-www.larc.nasa.gov/ceres/ASDceres.html

Cloud Effect on Earth's Radiation



Wallops Shorts……..

Rocket Launch

A NASA single stage Terrier-Black Brant sounding rocket was successfully launched from the White Sands Missile Range, N.M. on June 21. The payload was a solar and heliospheric sciences experiment to study activity in the solar corona with sufficient spatial, spectral and temporal resolution to understand the physical mechanisms responsible for coronal heating and dynamics. The principal investigator was Dr. Leon Golub, Smithsonian Astrophysical Observatory. The payload was recovered.

On the road

Keith Koehler, NASA PAO, spoke to clients at the Dove Point Center in Salisbury on June 21.

Guest Appearance

Wallops senior meterologist, **Ted Wilz**, GHG, was a guest on WBOC TV during the early morning show on June 22. He was interviewed as part of National Lightning Awareness Week.

HESSI Launch Postponed in Light of NASA's X-43A Failure

The launch of NASA's High Energy Solar Spectroscopic Imager (HESSI) aboard an Orbital Sciences air-launched Pegasus XL rocket is postponed indefinitely to allow NASA officials to complete a thorough review of the Pegasus incident, which occurred June 2 during the X-43A launch from Vandenberg Air Force Base (VAFB), Calif.

The X-43A test used only the winged first stage of the Pegasus rocket, but featured modifications to its thermal protection plus a new guidance system and repackaged avionics.

The Pegasus that will loft HESSI into orbit is a full three-stage version of the small satellite launcher. However, NASA and Orbital Science Corporation officials believe it is prudent to allow the X-43 failure board time to complete its investigation into the failure prior to launching HESSI.

The spacecraft was placed on the Orbital Stargazer L-1011 aircraft at Kennedy Space Center and returned to VAFB until a new launch date is determined.

For more information about the HESSI spacecraft and its science mission, go to: http://hesperia.gsfc.nasa.gov/hessi

NASA Visitor Center Events Scheduled for July

July 7 — "Model Rocket Launch"
Models of various rockets will be launched beginning at 1 p.m. Model rocketeers are invited to bring their own rockets and launch them. The launch will be canceled if it is raining or winds exceed 18 mph.

July 8 — "Bike Tour of the Main Base"
Participants must bring their own bicycles, and wear a helmet. The tour starts at 3 p.m., is 3 miles long and takes approximately an hour. The tour will be cancelled if it is raining.

July 21 — "Launches of Scale Models of NASA Launch Vehicles"
Visitor Center personnel will bring out a fleet of NASA scale models. Models of the Saturn V, Saturn IB, Little Joe and various sounding rockets will be launched to commemorate the first Moon landing on July 20, 1969. The launches start at 1 p.m. The program will be canceled if it is raining or winds exceed 18 mph.

On Saturdays and Sundays, the 10-minute puppet show, "Puppets in Space", is presented at 11 a.m. Puppet astronauts and Sam the monkey explore space flight and the space suit. An eight-minute version of the film "Astrosmiles" follows the puppet show.

On Sundays at 1 p.m. a 30-minute program on "Humans in space" is presented. The program looks at living and working in space and includes a review of the astronauts' meals and their wardrobe. The program is followed by an activity during which children have the opportunity to create their own "space helmet."

Children aged 5-10 years old can earn a "Space Ace" certificate and a lithograph during their visit by completing an activity sheet.

The Visitor Center, part of the Robert L. Krieger Education Complex, is open daily from 10 a.m. to 4 p.m. from July 1 through Labor Day. Admission to Visitor Center Programs is free. For further information visit the Visitor Center web site at: http://www.wff.nasa.gov/vc/ or call x2298.

Have a safe holiday! The next edition of Inside Wallops will be July 9.

Aerobics Club News

The Wallops Aerobics Club will hold a new six-week session beginning June 27 in the Gymnasium, Building D-10.

Summer is here. Stay in shape for summer-time activities.

There will be three one-hour evening classes on Monday, Wednesday, and Friday. For times and price visit the Aerobics Club web page at: *http://wwr.wff.nasa.gov/WAC/*

For more information, call Annette Conger, x2596, or Lisa Brittingham, x2292.

Member Appreciation Day
June 27
11 a.m. to 1 p.m.
Building E-2 -- Cafeteria

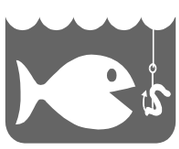
Sponsored by the NASA Federal Credit Union

It's time to go fishing

Those who go fishing go when they can get time off, not necessarily because it's the best time to fish. The locals say there are best times to fish, such as:

During "the morning rise" (after sunup for a spell) and "the evening rise" (just before sundown and the hour or so after).

One hour before and one hour after a high tide, and one hour before and one hour after a low tide.



Starting on the day the Moon is new and continuing through the day it is full.

When the barometer is steady or on the rise, but even during a three-day driving N'easter, the fish aren't going to give up eating. They keep right on feeding, and the smart fisherman will find something they want.

When the gnats (no-see'ems) are biting.

When there's a westerly breeze rather than one from the north or east.

When the water is calm (still or rippled), rather than when it's windy.

Resources Available for Educators

The NASA Visitor Center Educator Resource Center (ERC) has materials available free of charge to teachers and other educators. Teacher's guides, lithographs, posters, activity sheets, CD's and videos are available on subjects ranging from astronomy, planets, Space Shuttle, rockets and aeronautics to life in space.

Educators who would like to make copies of videotapes should make an appointment by calling the ERC on (757) 824-1776. There is no charge but you must supply blank tapes.

The ERC is open Tuesday through Saturday from 10 a.m. to 4 p.m., June 28 through Sept. 1, 2001.

For further information, visit the Visitor Center web site at: http://www.wff.nasa.gov/vc/ or call x1776.

Coming up

June 25 — July 6
NASA Langley research Center aircraft noise tests, Wallops Main Base.

June 26 - July 9
NASA Black Brant V sounding rocket launch, Wallops Island. Window runs 9 p.m. to 4 a.m.

June 30, 3:46 p.m.
Microwave Anisotropy Probe (MAP) spacecraft launch on a Boeing Delta 2 rocket from Pad B at Space Launch Complex 17, Cape Canaveral Air Force Station. The launch window is 12 minutes. MAP is a partnership between NASA Goddard and Princeton University, New Jersey.

July 12, 5:04 a.m.
Space Shuttle Atlantis, STS-104 launch. Mission is to deliver a 6.5 ton Joint Airlock that will enable astronauts to conduct space walks from the International Space Station.

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